ABSTRACT

A junction varactor includes a gate finger lying across an ion well of a semiconductor substrate; a gate dielectric situated between the gate finger and the ion well; a first ion diffusion region with first conductivity type located in the ion well at one side of the gate finger, the first ion diffusion region serving as an anode of the junction varactor; and a second ion diffusion region with a second conductivity type located in the ion well at the other side of the gate finger, the second ion diffusion region serving as a cathode of the junction varactor. In operation, the gate of the junction varactor is biased to a gate voltage V_G that is not equal to 0 volt.